

March 13, 2003

RE: Koch Nitrogen Company 069-16525-00058

TO: Interested Parties / Applicant

FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Registration

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 4-21.5-3-4 (d) this order is effective when it is served. When served by U.S. mail, the order is effective three (3) calendar days from the mailing of this notice pursuant to IC 4-21.5-3-2(e).

If you wish to challenge this decision, IC 4-21.5-3-7 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, ISTA Building, 150 W. Market Street, Suite 618, Indianapolis, IN 46204, **within (18) eighteen days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) the date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for consideration at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosure

March 13, 2003

Ron Simmons
Koch Nitrogen Company
502 East Hosler Street
Huntington, Indiana 46750

Re: Registered Construction and Operation Status,
069-16525-00058

Dear Mr. Simmons:

The application from Koch nitrogen Company, received on September 3, 2002, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following, to be located at 502 East Hosler Street in Huntington, Indiana, is classified as registered:

- (a) One (1) 25.26 MMBtu/hr natural gas-fired ammonia heater, identified as H-1, with emissions exhausted through Stack H1;
- (b) One (1) 18.5 MMBtu/hr natural gas-fired ammonia heater, identified as H-2, with emissions exhausted through H2;
- (c) One (1) 9 horsepower natural gas-fired emergency generator;
- (d) Two (2) 12,000,000 gallon ammonia tanks, identified as T1 and T2, equipped with one (1) 2.28 MMBtu/hr natural gas-fired flare, identified as EF-1, with emissions exhausted through Stack EF1; and
- (e) One (1) propane unloading area.

The following conditions shall be applicable:

1. Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

2. Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

3. Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and any control devices.

This registration is the first renewal issued to this source. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Office of Air Quality that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.5-4(a)(3). The annual notice shall be submitted to:

Compliance Data Section
Office of Air Quality
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Original Signed by Paul Dubenetzky
Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

SDF

cc: File - Huntington County
Huntington County Health Department
Air Compliance - Ryan Hillman
Permit Tracking
Technical Support and Modeling - Michele Boner
Compliance Data Section - Karen Nowak

Registration Annual Notification

This form should be used to comply with the notification requirements under 326 IAC 2-5.5-4(a)(3).

Company Name:	Koch Nitrogen Company
Address:	502 East Hosler Street
City:	Huntington, Indiana 46750
Authorized individual:	
Phone #:	
Registration #:	069-16525-00058

I hereby certify that Koch Nitrogen Company is still in operation and is in compliance with the requirements of Registration 069-16525-00058.

Name (typed):
Title:
Signature:
Date:

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Registration

Source Background and Description

Source Name: Koch Nitrogen Company
Source Location: 502 East Hosler Street, Huntington, Indiana 46750
County: Huntington
Registration No.: 069-16525-00058
SIC Code: 4266
Permit Reviewer: SDF

On September 3, 2002, Koch Nitrogen Company submitted an application to modify their existing source by:

- (a) removing emergency ammonia flares T-1 and T-2 and replacing these flares with a single flare;
- (b) removing vaporizer units V-1 through V-5;
- (c) convert ammonia heaters H-1 and H-2 from propane to natural gas firing;
- (d) convert the 9 horsepower emergency backup generator from propane to natural gas firing; and
- (e) change the source name from Koch Fertilizer Storage and Terminal Company to Koch Nitrogen Company.

The existing source is currently permitted under Construction Permit 069-9596-00058, issued on June 30, 1998. While the source is not required to submit an application for an operating permit until 90 days prior to the expiration date of the permit (April 28, 2004), Koch Nitrogen Company has agreed to be issued an operating permit renewal at this time due to the fact that the modification is being submitted so close to renewal.

Since each applicable pollutant's UPTE is less than the higher end applicable level of 25 tons per year, the NO_x UPTE exceeds the lower end applicable level of 10 tons per year, and no single or combined HAP UPTE exceeds the respective applicable levels of 10 and 25 tons per year, this source shall be permitted via a Registration pursuant to 326 IAC 2-5.5-1(b)(1).

Recommendation

The staff recommends to the Commissioner that this Registration be approved. This recommendation is based on the following facts and conditions:

Information used in this review was derived from the application and additional information submitted by the source on December 23, 2002.

Emissions Calculations

(a) Unrestricted Potential to Emit (UPTE):

The source emissions are generated by Heaters 1 and 2, the emergency flare, the emergency generator, and the propane unloading area. The source does have storage tanks, but the tanks do not generate any regulated pollutant emissions because the tanks do not store any materials that contain regulated pollutants.

The following calculations determine the UPTE from these units.

(1) Heaters 1 and 2:

The following calculations determine the heater 1 and heater 2 UPTE based on a maximum capacity of 43.76 MMBtu/hr, natural gas combustion, AP-42 emission factors, 8760 hours of operation, and emissions before controls.

$$43.76 \text{ MMBtu/hr} * 1 \text{ MMft}^3 / 1000 \text{ MMBtu} * 8760 \text{ hr/yr} * \text{Ef lb/MMcf} * 1/2000 \text{ ton/lb} = \text{tons/yr}$$

	PM	PM10	SO2	NOx	VOC	CO
Ef (lb/ft3)	1.9	7.6	0.6	100	5.5	84
tons/yr	0.36	1.45	0.12	19.17	1.05	16.10

(2) Emergency Flare:

The following calculations determine the flare UPTE based on a maximum capacity of 2.28 MMBtu/hr, natural gas combustion, AP-42 emission factors, 8760 hours of operation, and emissions before controls.

$$2.28 \text{ MMBtu/hr} * \text{Ef lb/MMBtu} * 8760 \text{ hr/yr} * 1/2000 \text{ ton/lb} = \text{tons/yr}$$

	PM*	PM10*	SO2	NOx	VOC	CO	Single HAP	Combined HAP
Ef (lb/MMBtu)	0.003	0.003	-	0.10	0.10	0.10	-	-
tons/yr	0.03	0.03	0.00	1.00	1.00	1.00	0.00	0.00

* PM and PM10 emission factor based on 40 ug/l and 1,522 scfh of propane/ammonia with effluent flow rate = 43,098 l/hr (the emissions generated that are not natural gas combustion emissions are determined to be negligible)

(3) 9 HP Emergency Generator:

The following calculations determine the generator UPTE based on a maximum capacity of 9.0 HP, natural gas combustion, AP-42 emission factors, 500 hours of operation, and emissions before controls.

$$9 \text{ HP} * \text{Ef lb/HP hr} * 500 \text{ hr/yr} * 1/2000 \text{ ton/lb} = \text{tons Poll./yr}$$

	PM	PM10	SO2	NOx	VOC	CO	Single HAP	Combined HAP
Ef (lb/HP hr)	0.001	0.001	0.001	0.011	0.022	0.439	neg.	neg.
tons/yr	0.002	0.002	0.002	0.02	0.05	0.99	neg.	neg.

(4) Propane Unloading Area:

The propane unloading area generates PM and PM10 fugitive emissions and fugitive VOC emissions. The following calculations determine these emissions.

(a) Fugitive VOC Emissions:

The following calculations determine the propane unloading area fugitive VOC UPTE based on the propane properties, fugitive emissions from the hoses (maximum volume of the hoses), the maximum number of trucks processed, and emissions before controls.

$$0.119 \text{ lb VOC/ft}^3 * 0.221 \text{ ft}^3 * 8760 \text{ hr/yr} * 1/2000 \text{ tons VOC/lb VOC} = 0.12 \text{ tons VOC/yr}$$

(b) Fugitive PM/PM10 Emissions:

(1) Semi Trucks:

The following calculations determine the propane truck fugitive PM/PM10 UPTE based on 20520 veh./yr, 0.25 mi/veh., AP-42 methods, 8760 hours of operation, and emissions before controls.

$$\begin{aligned} \text{Ef(PM)} &= [k*(s/12)^a*(W/3)^b] / [(M/0.2)^c] &= \text{lb PM/mi} \\ &= [0.38 * (5/12)^{0.8} * (13/3)^{0.4}] / [(0.2/0.2)^{0.3}] &= \\ &= [0.38 * 0.50 * 1.80] / [1] &= \\ &= 0.34 \text{ lb/mi} \end{aligned}$$

$$\begin{aligned} \text{Ef(PM10)} &= [k*(s/12)^a*(W/3)^b] / [(M/0.2)^c] &= \text{lb PM10/mi} \\ &= [2.6 * (5/12)^{0.8} * (13/3)^{0.4}] / [(0.2/0.2)^{0.3}] &= \\ &= [2.6 * 0.50 * 1.80] / [1] &= \\ &= 2.34 \text{ lb/mi} \end{aligned}$$

where: k = 0.38 for PM, 2.6 for PM10
s = 5 % silt content of unpaved roads
a = 0.8
b = 0.4
c = 0.3
W = 13 tons average vehicle weight
w = 20 wheels
M = 0.20 surface moisture content

$$\begin{aligned} 20520 \text{ veh./yr} * 0.25 \text{ mi/veh.} * 0.34 \text{ lb/mi} * 1/2000 \text{ ton/lb} &= \mathbf{0.87 \text{ tons PM/yr}} \\ 20520 \text{ veh./yr} * 0.25 \text{ mi/veh.} * 2.34 \text{ lb/mi} * 1/2000 \text{ ton/lb} &= \mathbf{6.00 \text{ tons PM10/yr}} \end{aligned}$$

(2) Pick-up Trucks:

The following calculations determine the propane truck fugitive PM/PM10 UPTE based on 17520 veh./yr, 0.25 mi/veh., AP-42 methods, 8760 hours of operation, and emissions before controls.

$$\begin{aligned} \text{Ef(PM)} &= [k \cdot (s/12)^a \cdot (W/3)^b] / [(M/0.2)^c] &= \text{lb PM/mi} \\ &= [0.38 \cdot (5/12)^{0.8} \cdot (2/3)^{0.4}] / [(0.2/0.2)^{0.3}] &= \\ &= [0.38 \cdot 0.50 \cdot 0.85] / [1] \\ &= 0.16 \text{ lb/mi} \end{aligned}$$

$$\begin{aligned} \text{Ef(PM10)} &= [k \cdot (s/12)^a \cdot (W/3)^b] / [(M/0.2)^c] &= \text{lb PM10/mi} \\ &= [2.6 \cdot (5/12)^{0.8} \cdot (2/3)^{0.4}] / [(0.2/0.2)^{0.3}] = \\ &= [2.6 \cdot 0.50 \cdot 0.85] / [1] \\ &= 1.11 \text{ lb/mi} \end{aligned}$$

where: k = 0.38 for PM, 2.6 for PM10
s = 5 % silt content of unpaved roads
a = 0.8
b = 0.4
c = 0.3
W = 2 tons average vehicle weight
w = 4 wheels
M = 0.20 surface moisture content

17520 veh./yr * 0.25 mi/veh. * 0.16 lb/mi * 1/2000 ton/lb = **0.35 tons PM/yr**
17520 veh./yr * 0.25 mi/veh. * 1.11 lb/mi * 1/2000 ton/lb = **2.43 tons PM10/yr**

(b) Emission After Controls:

All applicable emissions are uncontrolled.

Total Potential and Allowable Emissions

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA.”

This table reflects the source PTE before controls based on the above estimated emissions calculations. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	1.61
PM-10	9.91
SO ₂	0.12
VOC	2.22
CO	18.09
NO _x	20.19

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

HAPs	Potential To Emit (tons/year)
Worst Case Single HAP	neg.
Combined HAPs	neg.

Since each applicable pollutant's UPTE is less than the higher end applicable level of 25 tons per year, the NO_x UPTE exceeds the lower end applicable level of 10 tons per year, and no single or combined HAP UPTE exceeds the respective applicable levels of 10 and 25 tons per year, this source shall be permitted via a Registration pursuant to 326 IAC 2-5.5-1(b)(1).

County Attainment Status

The source is located in Huntington County.

Pollutant	Status
PM ₁₀	attainment or unclassifiable
SO ₂	attainment or unclassifiable
NO ₂	attainment or unclassifiable
Ozone	attainment or unclassifiable
CO	attainment or unclassifiable
Lead	attainment or unclassifiable

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Huntington County has been designated as attainment or unclassifiable for ozone. Therefore, the VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration, 326 IAC 2-2 and 40 CFR 52.21.
- (b) Huntington County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

New Source Emissions (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Unit	PM (tons/yr)	PM10 (tons/yr)	SO2 (tons/yr)	NOx (tons/yr)	VOC (tons/yr)	CO (tons/yr)	Worst Case Single HAP (tons/yr)	Comb. HAPs (tons/yr)
Source	1.61	9.91	0.12	20.19	2.22	18.09	neg.	neg.

PSD Major Levels	250	250	250	250	250	250	-	-
Part 70 Major Levels	-	100	100	100	100	100	10	10/25

- (a) This source is not a major PSD stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more and it is not one of the 28 listed source categories.

- (b) This source is not a Title V major stationary source because none of the criteria pollutants exceed the applicable level of 100 tons/yr and the single and combined HAP emissions do not exceed their respective applicable levels of 10 and 25 tons per year.

Federal Rule Applicability

(a) New Source Performance Standards (NSPS):

There are no New Source Performance Standards (326 IAC 12) and 40 CFR Part 60 applicable to this facility.

The two (2) ammonia tanks do not store materials that contain VOCs. Thus, Subparts K, Ka, and Kb of the New Source Performance Standards do not apply.

This source is not subject to the New Source Performance Standard, 326 IAC 12, (40 CFR Parts 60.200 through 60.240 or 60.420, Subparts T through X or Subpart PP since the source is not a phosphate fertilizer or ammonium sulfate manufacturer.

(b) National Emission Standards for Hazardous Air Pollutants (HAP):

There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) that apply to the proposed source.

State Rule Applicability

(a) Rules that Apply to the Entire Source:

(1) 326 IAC 1-6-3 (Preventive Maintenance Plan):

The proposed source is required to have a preventive maintenance plan for the emission units and control devices of the source.

(2) 326 IAC 2-2 (Prevention of Significant Deterioration):

This source is not a major PSD stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more and it is not one of the 28 listed source categories.

(3) 326 IAC 2-4.1 (HAP Major Sources):

This source is not subject to the requirements of 326 IAC 2-4.1 because the single and combined HAP PTE are less than their respective applicable levels of 10 and 25 tons per year.

(4) 326 IAC 2-6 (Emission Reporting):

This source is not subject to 326 IAC 2-6 (Emission Reporting), because the source PM, SO₂, VOC, NO_x, PTE do not exceed the applicable level of 100 tons per year.

(5) 326 IAC 5-1-2 (Opacity Limitations):

Opacity shall not exceed an average of 40% in any one 6 minute averaging period. Opacity shall not exceed 60% for more than a cumulative total of fifteen minutes.

(6) 326 IAC 6-4-2 (Fugitive Dust Emission Limitations):

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

(7) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)

This proposed modification is not subject to the requirements of 326 IAC 6-5 because the fugitive PM emissions do not exceed 25 tons per year.

(b) Rules that Apply to Individual Units and Processes:

(1) 326 IAC 6-3-2 (Propane Unloading Area):

The requirements of 326 IAC 6-3 do not apply because the PM emissions generated by the source are fugitive emissions, not process emissions.

(2) 326 IAC 8-4-3 (Petroleum Liquid Storage Facilities):

The requirements of 326 IAC 8-4-3 do not apply because the source tanks do not store petroleum liquids.

(3) 326 IAC 8-9 (Volatile Organic Liquid Storage vessels):

The requirements of 326 IAC 8-9 do not apply because the source tanks do not store materials that contain volatile organic liquids.

(4) 326 IAC 8-1-6 (State BACT Requirements):

Although there are no other Article 8 rules that apply to the source, 326 IAC 8-1-6 does not apply because the potential VOC emissions (2.22 tons/yr) are less than the applicable level of 25 tons per year.

Conclusion

This source shall be operated under the requirements specified in Registration 069-16525-00058.